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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,845	09/23/2003	Wei Wang	01-2618A	4956

24114 7590 01/23/2004

LYONDELL CHEMICAL COMPANY
3801 WEST CHESTER PIKE
NEWTOWN SQUARE, PA 19073

EXAMINER

CHEUNG, WILLIAM K

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 01/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

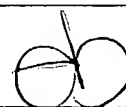
Office Action Summary

Application No.

10/668,845

Applicant(s)

WANG ET AL.



Examiner

William K Cheung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1215.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 9-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Guo (US 5,475,073).

*The invention of claims 1-4, 9-17 relates to a **method for preparing a low-yellowing acrylic polyol**, said method comprising **free radically copolymerizing an allylic alcohol, an alkyl acrylate or methacrylate**, and optionally a vinyl comonomer selected from the group consisting of vinyl aromatics, vinyl ethers, and vinyl esters in an **initiator concentration less than or equal to 0.8 wt %** of the total amount of monomers, wherein the resulting acrylic polyol has an **APHA color increase less than 100% when mixed with 1.5 wt %**, based on the amount of the acrylic polyol, of an **UV light stabilizer**.*

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Guo (abstract; col. 2, line 32-49; col. 3, line 39-42; col. 4, line 15-26; col. 4, line 46-54, col. 6, line 52 to col. 7, line 12) discloses a method for preparing an acrylic polyol free radically comprising an allylic alcohol, an alkyl acrylate, and methacrylate. The product of the process has a number average molecular weight of 1585 and a polydispersity of 2.7 computed from the disclosed M_n and M_w information. Guo (col. 4, line 22) clearly disclose a process that involves using free radical initiator within the range of about 0.1 to about 10 weight percent which include a significant portion of the claimed initiator concentration.

In view of the substantially identical monomeric and peroxide components in the process of Guo and in the claimed process, the examiner has a reasonable basis to believe that the claimed property which involves an APHA color increase less than 100% when mixed with 1.5 wt %, based on the amount of the acrylic polyol, of an UV light stabilizer is inherently possessed by Guo. Claims 1-4, 9-17 are anticipated.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guo (US 5,475,073).

*The invention of claims 5-9 relates to the method of claim 1, wherein the copolymerization is performed in the **presence of an organic solvent**.*

Guo (abstract; col. 2, line 32-49; col. 3, line 39-42; col. 4, line 15-26; col. 4, line 46-54, col. 6, line 52 to col. 7, line 12) discloses a method for preparing an acrylic polyol free radically comprising an allylic alcohol, an alkyl acrylate, and methacrylate. The product of the process has a number average molecular weight of 1585 and a polydispersity of 2.7 computed from the disclosed M_n and M_w information. Guo (col. 4, line 22) clearly disclose a process that involves using free radical initiator within the range of about 0.1 to about 10 weight percent which include a significant portion of the claimed initiator concentration. In view of the substantially identical monomeric and peroxide components in the process of Guo and in the claimed process, the examiner has a reasonable basis to believe that the claimed property which involves an APHA

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color increase less than 100% when mixed with 1.5 wt %, based on the amount of the acrylic polyol, of an UV light stabilizer is inherently possessed by Guo.

The difference between the invention of claims 5-8 and Guo is that Guo (col. 4, line 46-54) teaches that the process is advantageously performed in the absence of any reaction solvent.

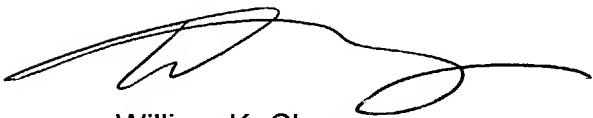
However, Guo (col. 4, line 46-54) also teach that a solvent may be included if desired. Suitable solvents such as ethers, esters, ketones, aromatic and aliphatic hydrocarbons, alcohols, glycol ethers, glycol ether esters, and the like, and mixture thereof are suitable. Therefore, motivated by the expectation that the addition of solvent would not impart negative process-related properties to the disclosed process, it would have been obvious to one of ordinary skill in art to recognize that the process conducted in a solvent is equally effective as compared to a process performed in the absence of a solvent to obtain the invention of claims 5-8. Regarding the solvent concentration limitations of claims 6-8, the examiner believes that the solvent concentration limitations are considered obvious because Guo clearly discloses a process that can be performed with a solvent which generically embraces using the solvent at any concentration.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William K Cheung whose telephone number (571) 272-1097. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David WU can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-5885.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1300.

A handwritten signature in black ink, appearing to be 'W. K. Cheung', with a long horizontal flourish extending to the right.

William K. Cheung

Patent Examiner

January 19, 2004